

## METHODS FOR PRODUCING ENANTIOMERICALLY PURE $\alpha$ - SUBSTITUTED CARBOXYLIC ACIDS

### ABSTRACT

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In accordance with the present invention there are provided methods for producing enantiomerically pure  $\alpha$ -substituted carboxylic acids, such as, for example,  $\alpha$ -amino acids and  $\alpha$ -hydroxy acids, said method comprising combining an aldehyde or ketone with a cyanide and ammonia or an ammonium salt or an amine, in the presence of a nitrilase or a polypeptide having nitrilase activity which stereoselectively hydrolyzes the amino nitrile or cyanohydrin intermediate under conditions sufficient to produce the carboxylic acid.

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